AR8600 *Mark2* RECEIVER - *any time, any place*

wider coverage all mode receiver 100 kHz - 3000 MHz with RS232 port

The **AR8600 *Mark2*** is an amazingly versatile receiver which can be used mobile, base or trans-portable... powered from an external 12V d.c. power supply, 12V vehicle or from an optional internally fitted NiCad battery pack. Due to continuous development of our products, the AR8600 *Mark2* has been enhanced in several areas. The upper **frequency range has been extended to 3000MHz** (3.0GHz), lower band sensitivity has been increased (now officially covering to 100kHz) with an enhancement to short wave performance by the addition of further bandpass filters and selection of alternative I.F. filters. **Mini-Circuits RMS1 / RMS2 mixers** have been employed with **active SPM aerial switching devices** (not diode-switching) abundantly employed throughout the signal path. The AR8600 *Mark2* provides remarkable short wave performance, making other similar wide band competitors mediocre by comparison.

MARK2 - INNOVATION & EVOLUTION



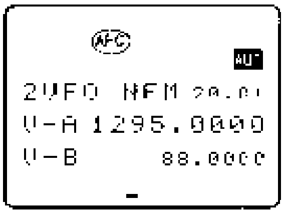
- Frequency coverage 100 kHz ~ 3000 MHz no gaps
- All mode reception with Super narrow FM plus Wide and Narrow AM in addition to the standard modes
- True carrier re-insertion in SSB modes
- New front end with RF preselection of VHF-UHF bands
- Detachable MW bar aerial
- Tuning steps programmable in multiples of 50 Hz in all modes, 8.33 kHz airband step correctly supported
- Step-adjust, frequency offset, AFC
- Noise limiter & attenuator
- Versatile band scope with save trace facility
- Twin frequency readout with bar signal meter
- Separate controls for volume & squelch
- Write protect & keypad lock, lamp dimmer
- Programmable scan & search including LINK, FREE, DELAY, AUDIO, LEVEL, MODE
- RS232 computer socket
- Flash-ROM memory (no battery required)
- Slot card sockets
- BNC socket for 10.7MHz i.f. output

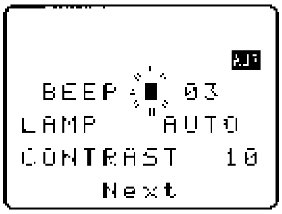
A strong twin metal case with die cast front panel characterises the multi-purpose role. All mode receive capability is provided including Single Side Band with programmable tuning steps down to a resolution of 50Hz with the frequency established by a highly accurate **Temperature Compensated Crystal Oscillator** (TCXO). An RS232 port further extends the capabilities with free supporting control software available from the AOR web sites.

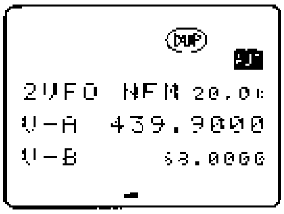
Many microprocessor features have been adopted from the trendsetting AR8200 Series-2 hand portable receiver, with the addition of a **lamp dimmer and squelch operated lamp**. The AR8600 *Mark2* RF front-end is an all new design with additional RF bandpass filters, sharper I.F. filters, SPM aerial switching devices for minimal signal path loss and Mini-Circuits mixers. RF preselection is provided through the crowded areas of VHF and UHF to ensure the highest levels of adjacent channel rejection with software spurii cancellation. In addition to a hinged telescopic whip aerial, the AR8600 *Mark2* is supplied with a **detachable plug in medium wave bar aerial** which locates on the rear chassis of the receiver for localised medium wave monitoring. An additional BNC socket is mounted on the rear chassis so that **10.7MHz i.f. output** may be extracted for use with external spectrum display and vector analyser units such as the AOR SDU5500. The TCXO ensures **high stability** with **minimal internal spurii** and is usually only seen in top of the range (more expensive) table-top models such as the AR5000 and AR7030.

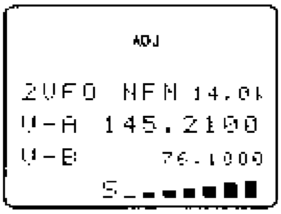
Centre stage is a custom multi-section back-lit LCD, numeric keypad, navigation keys, rotary tuning control and separate controls for volume and squelch control, the LCD can also display **alpha-numeric text comments**.

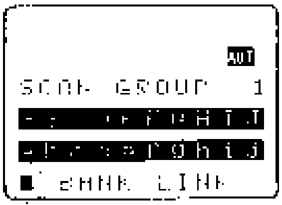
The all important **8.33 kHz airband channel step** is ***correctly implemented*** (eight-and-one-third, 33, 66, 00). Channel steps are provided in a menu and may be programmed. Step may be programmed by the operator in any receive mode using multiples of 50 Hz in any mode (i.e. 5 kHz, 12.5 kHz or even 1.25 kHz). Extensive **step-adjust** and **frequency offset** facilities are also provided (as per AR5000) to ensure tracking of the most obscure band plans, **AFC** (Automatic Frequency Control) is included for spot on tuning ensuring that nothing is missed.

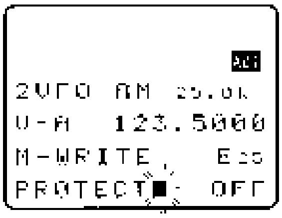


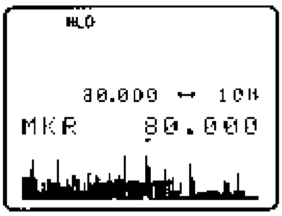


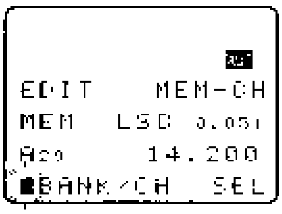












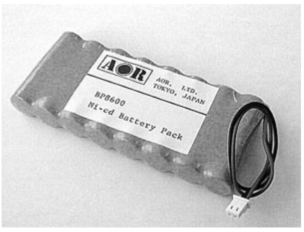




Optional Collins filters



Optional slot cards



Optional BP8600 battery

Optional accessories

Slot cards:

VI8200 Voice inverter (analogue), in 157 steps
CT8200 CTCSS squelch & search.
TE8200 Tone eliminator in 256 steps
RU8200 Chip based recording and playback, 20 seconds approx. with continuous loop
EM8200 External extended memory, backup 4,000 memories, 160 search banks

Miscellaneous:

CR5000 tape recording lead
DC8600 d.c. lead with cigar plug
BP8600 optional internal NiCad battery pack, provides about two hours of operation, requires workshop fitting
MM8600 wrap around mobile mount
MF2.5 substitute Collins SSB mechanical filter, requires workshop fitting
MF6 substitute Collins AM mechanical filter, requires workshop fitting

Aerials:
There are many suitable aerials available, these include.

MA500 VHF/UHF whip aerial on magnetic base with 4m of coaxial cable. Base is 85mm in diameter, total height is 720mm. Coverage is 25 to 1300 MHz.
DA3000 16 element discone aerial with 15m of coax. Coverage is 30 MHz to 2 GHz.
SA7000 Passive twin element wide band aerial with 15m of coax. Coverage is 30 kHz to 2 GHz.
LA350 Desktop loop aerial 3.0 MHz to 30 MHz. Optional elements availablefor LW & MW. Supplied with BNC lead.
ABF125 VHF airband filter for increased adjacent channel selectivity.

A wide frequency coverage is provided from **100 kHz to 3000 MHz** (no gaps).
All mode receive: WFM, NFM, SFM (Super Narrow FM), WAM, AM, NAM (Wide, standard, Narrow AM), USB, LSB & CW. A 3.0 kHz SSB filter is employed with true carrier re-insertion resulting in non-offset frequency readout for easy tuning of SSB transmissions. **Optional substitute SSB and AM Collins mechanical filters are also available**. An attenuator and noise limiter are also featured.

A meaningful band plan is factory programmed specific to market area, this ensures that the AR8600 *Mark2* automatically selects the correct receive mode and tuning step (although mode and tuning step may be manually selected at any time), the band plan may be edited via computer control.

A group of four front panel navigational keys provide a natural and intuitive path through the on-screen menus. Tuning is primarily accomplished via the main tuning dial, arrow keys and keypad. The back-lit LCD with contrast control provides operational data with the ability to add **12 character text comments** to each memory channel, memory bank and search bank, a text search feature simplifies identification and recall of stored information.

Many text prompts aid operation making programming of search banks etc straight forward. Two frequencies may be displayed along with operating legends and high resolution signal meter and **multi-function band scope.** The band scope provides adjustable span width from 10 MHz to 100 kHz , you can move the marker, operate peak hold, transfer the marker frequency to VFO and **save trace** for later recall.

Flexible dynamic memory bank layout is provided (memory banks may be varied in size between 10 and 90 channels each *i.e. bank 'A' 80 channels / bank 'a' 20 channels with bank 'B' 40 channels / bank 'b' 60 channels etc*). A total of 1,000 memories are provided in 20 memory banks, lockout, select scan, priority and auto store are also provided. In addition 40 search banks are provided with 50 pass channels per search bank and a further 50 for VFO search lockout. Comprehensive edit, move, swap and delete facilities are provided, it is possible to move whole memory & search banks. In addition you may write **PROTECT** memories, banks and search banks to prevent accidental over-writing of stored data including protection of the entire receiver! Scan & search rates provide a maximum of approximately 37 increments per second. Flash-ROM memory storage ensures that data is automatically saved without the need for a backup battery or capacitor.

Computer control is available via a standard 9-pin RS232 D-type connector on the rear chassis, just a standard RS232 cable is required for connection to a PC, the extensive RS232 command list is printed in the operating manual. A **FREE software package** is available as a download from the AOR web sites, this provides frequency control & management, searching, scanning, logging with support for geographic data from a GPS and audio recording to disk.

In addition, '**optional internal SLOT CARDS**' (which fit into the rear chassis of the AR8600 *Mark2*) extend the capabilities even further, five cards may be fitted with two operational simultaneously ●***Memory slot card*** (increase storage to 4,000 memories, 160 search banks). ●***CTCSS slot card*** squelch & search. ●***Record chip slot card*** (records up to 20 seconds of audio) with 'continuous loop' capability. ●***Tone eliminator slot card.*** ●***Voice inverter card.*** *The slot cards are common to the AR8600, AR8600 Mark2, AR8200 and AR8200 Series-2.*

Portable operation is a reality, when the optional BP8600 battery is fitted, **several hours operation** is provided away from the base or vehicle power supplies.
(Note, considering the BP8600, a 15V regulated d.c. supply is recommended for charging purposes so that the battery obtains a full charge, full charging time 48 hours. This may also be used as a power supply).

Supplied with: Swivel base telescopic whip aerial, MW bar, comprehensive illustrated operating manual with RS232 listing, a.c. power supply specific to the market area (free PC software is available from the AOR web sites). ***The availability of standard accessories and options may vary depending upon market area.***

AR8600 *Mark2* specification

Frequency Range:	100 kHz to 3000 MHz * ** Cell blocked in the USA for FCC rules*	
Receive Modes:	WFM, NFM, SFM, WAM, AM, NAM, USB, LSB, CW	
Sensitivity:	**100 kHz ~ 1.9 MHz**	AM: 2.5 µV (10dB S/N)
	1.9 MHz ~ 30 MHz	AM: 2.0 µV (10dB S/N)
	30 MHz ~ 470 MHz	AM: 1.5 µV (10dB S/N) NFM: 0.7 µV (12dB SINAD) WFM: 1.0 µV (12dB SINAD)
	470 MHz ~ 1040 MHz	NFM: 0.6 µV (12dB SINAD)
	1040 MHz ~ 2040 MHz	NFM: 3.5 µV (12dB SINAD)
	2040 MHz ~ 3000 MHz	NFM: 10 µV (12dB SINAD)
Selectivity:	**SSB/NAM**	3kHz (-6dB), 9kHz (-60dB)
	AM/SFM	9kHz (-6dB), 20kHz (-40dB)
	WAM/NFM	12kHz (-6dB), 25kHz (-40dB)
	WFM	150kHz (-3dB), 380kHz (-40dB)
Aerial connection:	50 OHM BNC	
Audio output:	800mW (8 OHMS) MAX @ 10% THD. Internal speaker, rear chassis 3.5mm socket, front panel 3.5mm socket	
Power Consumption:	400mA typical usage, 70mA on standby. 10.8 - 16V d.c. negative ground 9.6V from optional internal BP8600 NiCad	
Operating temperature range	-5 to +50°C	
Dimensions:	155(W) x 57(H) x 195(D) mm excluding projections	
Weight:	2kg approx (MW bar aerial included)	
Memory channels:	1,000 (20 banks)	
Select scan channels:	50	
Priority channels:	1	
Search banks:	40	
PASS channels:	50 per search bank + 50 for VFO search	
Scan/Search Rate:	37 increments per second maximum	

Specifications subject to change without notice due to continuous development of the receiver. E&OE.

AOR Ltd
2-6-4 Misuji, Taito-ku, Tokyo 111-0055, Japan.
Tel: +81 3 3865 1695 Fax: +81 3 3865 1697
post@aorja.com www.aorja.com

AOR (UK) Ltd
4E East Mill, Bridgefoot, Belper,
Derbys DE56 2UA, England
Tel: +44 1773 880788 Fax: +44 1773 880780
info@aoruk.com www.aoruk.com

AOR USA, INC.
20655 S. Western Avenue, Suite # 112
Torrance, CA. 90501, USA
Tel: (310) 787 8615 Fax: (310) 787 8619
info@aorusa.com www.aorusa.com